

# COOP'S TECHNOLOGY DIGEST

*-A Timely Report On The World Of Communications-*

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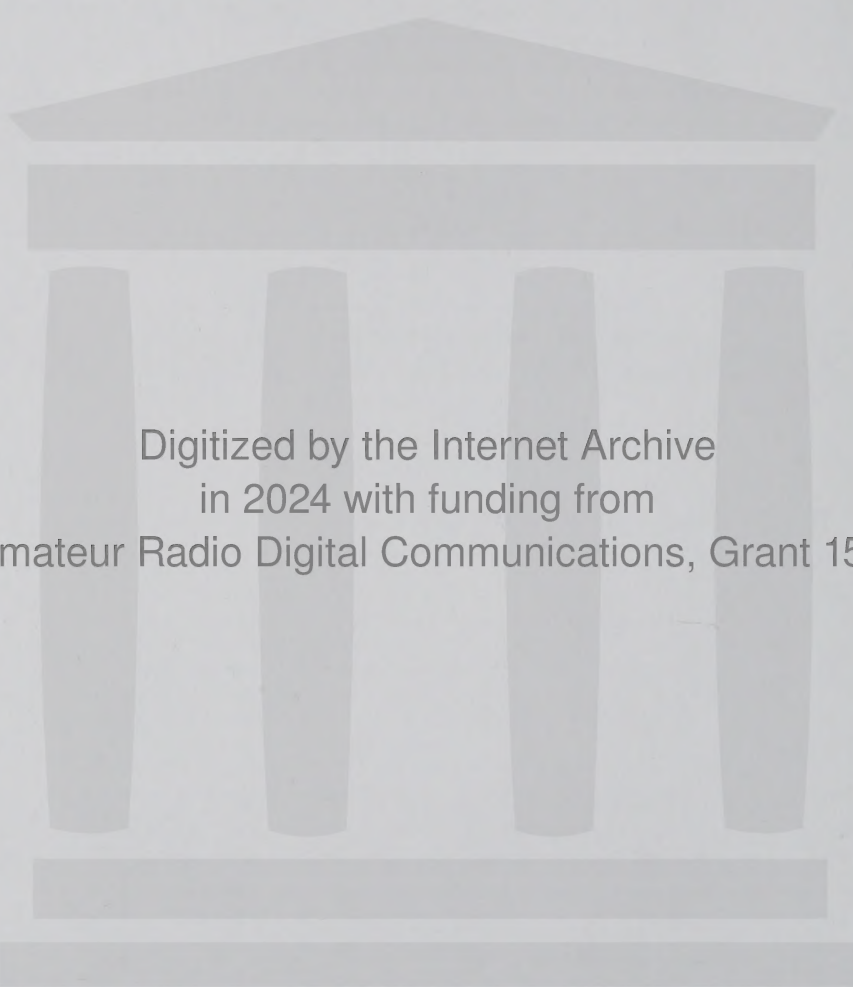
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April 29, 1998 ♦ VOLUME 98-04-47

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## The Status Of Digital Transition

Here is a partial list of the analogue to digital format changes now underway world-wide:

1) Terrestrial television. Test transmissions of digital format television are underway in the United States, Europe, and a small number of other countries. Commercial digital service is scheduled for the last quarter of this year in the UK, USA. Australia has adopted a digital transition policy calling for major network stations (7, 9 and 10) in principal cities to be operational with HDTV format digital terrestrial service by 2001. Regional stations in secondary markets have until 2004 to be operational. New Zealand's digital policy remains unsettled although new initiatives are underway (see p. 19, here).

2) Satellite television. Digital transmissions utilising pre-MPEG2 format formats began in 1994 and the conversion from analogue to digital is now more than 50% mature world-wide (i.e., more than 50% of all operating satellite TV programme services now utilise some form of digital transmission). DTH programme packagers have led the transition to digital, the Australian Galaxy (Australis) service pioneered digital DTH in the Pacific, Sky NZ plans digital operation before the end of this year. (1) The UK BSkyB service, analogue at this time, is now testing a digital DTH service with commercial rollout of the service scheduled for June / September. Digital DTH is operating in Japan (more than 500,000 subscribers), the USA (more than 7 million subscribers), throughout Africa, the Middle East, and more recently in South America.

3) Terrestrial radio. Tests of digital radio have been underway for nearly two years in Europe (UK, Germany) and limited commercial operation has begun. Two non-compatible frequency bands have developed; in the VHF region near 200 MHz and in the low microwave region near 1450 MHz. The goal is to provide "bouquets" of audio and in the future one-way data transmissions to portable, home and mobile digital audio receivers with "CD quality" sound reproduction. Conflicts over the choice of frequency bands and the digital format to be utilised have stopped implementation of digital terrestrial radio in the USA although testing continues.

4) Satellite radio. Several groups plan various approaches to delivering tens and even hundreds of separate audio channels (in stereo format, "CD quality sound") through satellite directly to specific

### (1) SKY NZ's IRD Selection No Surprise

An announcement April 21 by Sky relates an agreement with Pace Microsystems to acquire 50,000 IRD units over an unspecified period of time; first deliveries expected

October-November. Sky's selection of Pace was in line with their previous selection of the Murdoch controlled NDS encryption technology for their bouquet conditional access. Sky now expects to convert the existing 12,000 analogue receivers to digital IRDs during November-January with a roll out of digital to new subscribers sometime after the first of the year. Sky acknowledges a per IRD cost "in the region of US\$340" and forecasts an installed cost of NZ\$800-850 inclusive of antenna and other electronic parts. A spokesman for Pace told

CTD, "This is not the Rolls Royce IRD that we are supplying to BSkyB in the UK; it is a standard box almost identical in hardware design and software content as the IRD now being supplied to Mexico and Brazil (also Murdoch controlled DTH operations)." Of special interest, the spokesman told us, "This box is specifically designed not to allow FTA (free to air) reception," a statement which a representative from Sky did not like hearing when asked about the possible use of the IRDs for reception of terrestrial free to air signals (i.e., TVNZ services); see expanded report on p 11 here.





function receivers. WorldStar Radio is nearest to operation with a trio of satellites under construction and scheduled for launch during the last quarter of this year and the first half of 1999. WorldStar has formed alliances with receiver firms such as Sony, funded the creation of specific design radio sets, and is paying for an initial production run of 2,000,000 receivers which it will use to "jump start" the market for its satellite audio services. Initial receiver costs are likely to be in the region of US\$200. New Zealand is in theory not within the "footprint" (coverage area) of any of the three initial satellites although this is correctable by installing an antenna to receive the signals external to the special radio's built-in antenna. WorldStar has signed agreements with BBC and other international broadcasters to carry their programming which will be sold to listeners on a monthly / annual subscription fee basis (fees not yet announced, likely to be in the region of US\$10 per month for up to 100 radio channels). Transmission frequency range for WorldStar is 1451 - 1492 MHz. Several competitors plan similar services by 2002.

5) Consumer digital products:

a) Camcorders. Digital format products went on sale in Japan in mid-1997, have now captured more than 50% of retail market there. Digital camcorders are not widely available outside of Japan at this time, are apparently being held back because analogue format camcorders continue to sell well in world markets and lacking digital format TV receiver availability the real benefits of digital camcorders are yet to be realised. Digital camcorders are projected to grow rapidly in 1999 as digital TV receivers become available.

2) Digital VCRs. Currently only available in Japan and a handful of test markets. A unique JVC model created to work with the (USA) Echostar digital DTH programming service allows the viewer to extract the digital transport stream from the satellite IRD and go directly to tape still in digital format. This requires a special digital stream output from the satellite IRD; something not adopted by other IRD manufacturers to date. (2) Fifty manufacturers of VCRs have agreed on a protocol for digital VCRs, which are widely seen as the logical successor to the analogue VHS format.

Analogue VCRs have reached what is probably the end of the line for low pricing - under US\$80 at retail level in the United States. Pricing at retail has fallen by nearly 50% in the past 12 months, signalling a strategy to clean out existing inventory of parts and completed units preparatory to ceasing production of analogue VCRs except in special market formats that command higher retail pricing.

3) Digital Video Discs. This year's hot new product. The concept is straight forward - video programming material is pressed onto a CD (making it a digital video disc or DVD) and played back on a specially formatted player. North American markets began the rollout of DVD one year ago, the UK is the first European market to have DVD (April 1998). The world has been divided into "regions" to control the release dates of films; individual DVD releases are "region coded" and will not play in DVD players unless the region coding in the player matches the DVD region coding. Some "region free" players are being sold allowing the transborder shipment of DVD releases from North America, Europe to other world parts. The movie suppliers are in charge of this one - dictating

(2) With Analogue Outputs - What Good is a Digital Receiver?

Digital satellite IRDs process a data stream that begins as digital at the uplink, continues as digital through the satellite down to the integrated receiver decoder (IRD). But - once inside the IRD and processed, the output to the TV set is reformatted to analogue. Why? Because the viewing device (TV set) is analogue and will not recognise digital format signals. Thus the high definition, high quality, high signal to noise ratio benefits of digital are totally lost when the IRD reconverts the signal back to analogue for presentation to the TV receiver. There is a chain of equipment here which is, not surprisingly, only as good as the weakest link. If you insert even one analogue link into the chain, the final quality of the service can never be better than an analogue service.

The proper implementation of digital would start with the digital programme source (a TV camera, digital tape) and end with a digital TV receiver at the viewing end. If you leave digital at any point between start and finish, the benefits of digital picture quality are immediately lost in the intervening analogue stage.

There are some serious engineering issues here to be worked out (see p.13).





rules for DVD movie release and demanding conformity to their rules created to reduce or eliminate what they perceive as unauthorised use of their product ("unauthorised" - any use in a region of the world where the film has not been officially released according to the movie rights owner's schedule; any use of the film except in a licensed home environment; any duplication of the film - second generation).

Not all film studios are totally pleased with the DVD format safeguards to prevent "unauthorised" use; Fox, Paramount continue to withhold product from DVD release. However, more and more films are becoming available on DVD, the trend is for simultaneous release on DVD and VHS tape for consumer use and after one year of test marketing the DVD format success seems assured. The middle term effect of DVD is potentially significant. VHS tape rental firms are uncertain how DVD will impact on their business since DVD in its present form is primarily a sell through rather than a rental format. However, a variant of DVD called DIVX which launches later this year will offer DVD films for short term (48 hour) unlimited use at under US\$5. The discs themselves can be thrown away or recycled after their intended use.

The promoters of DVD cite the higher picture and sound quality (vis-à-vis VHS tape), the lower production costs, the smaller packaging (allowing greater inventory in a defined storage space), and the apparent long term mechanical integrity of the discs (versus the limited use possible with repeated playings of VHS tape). The higher picture quality is a presently limited by the analogue television receiver which plays the digitally stored image; real improvements in picture quality will only occur when there are digital TV sets capable of accepting the digital output transport stream from the DVD player. This is 2 to 3 years away as the protocol to interconnect the DVD player and the digital TV receiver has still not been agreed upon.

4) Digital consumer receivers. Until there are digital receivers in quantity and at pricing which attracts mass buying, the transition from analogue to digital delivery formats will be slow and driven by special needs of smaller market segment consumers. As satellite delivery IRDs become available with the ability to directly interface the digital transport stream to a digital TV receiver, consumers will find the step up to digital TV receivers appealing. As DVD players offer direct transport stream connection to a digital TV receiver, this will attract another segment of the mass marketplace. However, until there is regular operation of free to air terrestrial television, mass appeal of consumer receivers is unlikely.

The UK hopes to force early adoption of digital by being the first nation in the world with a nation-wide network of digital terrestrial broadcast stations. The US will be a close second but because their transition depends upon individual TV broadcast stations (there are more than 1,600 such stations) making their own independent decisions regarding the transition to digital, the development of the US market will be less uniform. Australia by establishing 2001 as an operational date for digital television hopes to duplicate the UK's national plan to have a cut-off date for analogue transmissions.

Major manufacturers of television receivers such as Mitsubishi have announced specific dates when they will cease to produce analogue TV receivers. Others, including Sony, plan to introduce combination analogue plus digital receivers initially, then gradually cut back on analogue only receivers over the period 1998-2003. At some point as the digital market grows, combination receivers will be scaled back in favour of digital-only receivers. Several plans exist, each subject to adjustment as the world marketplace matures. (3)

**(3) "We Should Not Be Driven to Digital by a Lack of Consumer Receivers..."**

Neville Lane, TVNZ: "We should not allow ourselves to be driven into a premature decision regarding conversion of our existing analogue transmitter system to digital by the threat that at some mid-term date there will be no more analogue receivers available for consumer sale. This is the wrong threat to force us into digital. Personally, I do not see how New Zealand will benefit by adding a digital network parallel to our existing analogue network. There is a tremendous expense involved and uncertain results with no real promise of increased revenues. If there is a different way for this country to adapt to digital, rather than building all new digital terrestrial facilities, I would be inclined to look carefully at it."





## Where Is All of This Headed?

There is no estimate of the cost to the world of converting everything now analogue to a new world of everything digital. One US study suggests it will amount to more than US\$3,500 for every household in the United States over a ten year period. Using this same estimate, the cost to New Zealand households would be in excess of NZ\$6.8 billion, to Australian homes in excess of A\$29 billion. These "costs" are the sum of re-equipping each home with digital TV, VCR, radio receivers plus the cost of rebuilding the transmission systems serving these devices from analogue to digital.

*What is the goal of this change?* Some believe it to be nothing more than greed on the part of the equipment manufacturers to force every home in the world to trash their existing equipment in favour of digital. Certainly there is a benefit to the Sonys and Mitsubishis of the world if everything analogue is replaced with something digital. That digital is a subversive plan to force the world to finance exponential growth of the electronics industry for the coming decade stretches the boundaries of reality. That the consumer electronic (CE) industry will benefit from this exchange is obvious.

*Why do we want digital?* What benefits are at the end of the trail? The digital transition is being described as a "marathon, not a sprint." Those first into the field with less than mature business plans will fold early according to Sony's Carl Yankowski.

The obvious benefits to digital are well known and have been reported here since 1994. They include:

1) More efficient transmission of intelligence. Spectrum space required to transmit a single television (or radio) programme in analogue is fractionalised by digital; 4, 6, 8 or more separate programmes can be transmitted in the same spectrum bandwidth now used for a single analogue TV (or radio) service.

2) More efficient transmission powers. Transmitters that now operate at 100,000 kilowatts will be replaced with digital transmitters of under 20,000 watts - with the same coverage now experienced. (4)

3) More versatile transmission formats. TV transmissions can be tailored to provide a range from standard definition (480 lines per "frame") to high definition (1,080 lines per "frame"), on a programme by programme basis. Moreover, the aspect ratio can be changed from our present 4:3 (width to height) to 16:9 allowing true widescreen, 35mm equivalent movie quality displays.

4) Creation of transmission "bouquets." Standard analogue TV requires one transmitter for each TV programme. Digital allows multiple TV programmes (channels) to be transmitted simultaneously through a single transmitter. The cost savings are obvious when two or more separate, unrelated programming channels share the same transmission equipment.

5) Conditional access built-in. While we tend to look at terrestrial TV as a free to air product, this view is primarily the result of finding ways to fund the cost of TV transmission. Conditional access, a subset of digital, allows individual receivers to be selectively "addressed" for viewing of one or more of the programme channels inside of a bouquet. This will allow traditional broadcasters to mix and

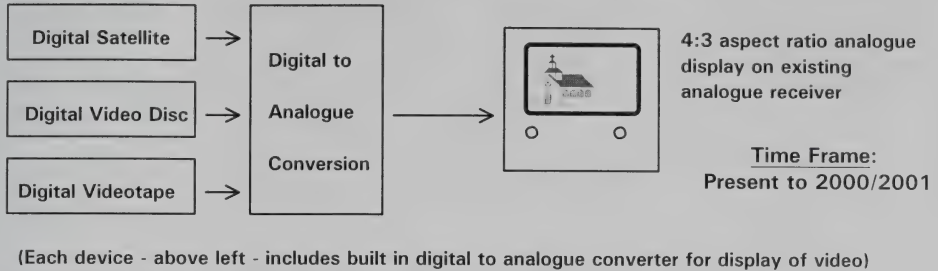
### **(4) How Much Transmitter Power for Terrestrial Digital?**

Testing to date suggests the digital television receiver needs to have 80 dBuV (+ 20 dBmV) of signal to perform with a bit error rate (BER) of one part in one million. This is very comparable to the signal level required for A-grade analogue (75 dBuV). Terrestrial digital power is typically designed to operate at approximately 1/3rd the peak level of a comparable analogue transmitter although the "peak" operating capability must be very close to the rating for an analogue transmitter (that is - while the transmitter may operate at 33% of an equivalent analogue, for proper processing [linearity] of the digital signal, the transmitter must have the same "total power capability" as an analogue transmitter). There are savings none the less for the transmitter operator: (1) power consumption averages 60% of an analogue transmitter, (2) and heat dissipating devices (cooling blowers, heat sinks) can be proportionately smaller. Digital transmitters will be less expensive to purchase, less costly to operate. But not nearly as much as originally forecast when digital terrestrial testing began in 1995. Tests at "typical" consumer receiving locations reveals a 1 dB increase in background noise or interference increases the bit error rate by ten times pointing out the higher susceptibility of digital terrestrial to many forms of signal degradation (such as multipath reflections).





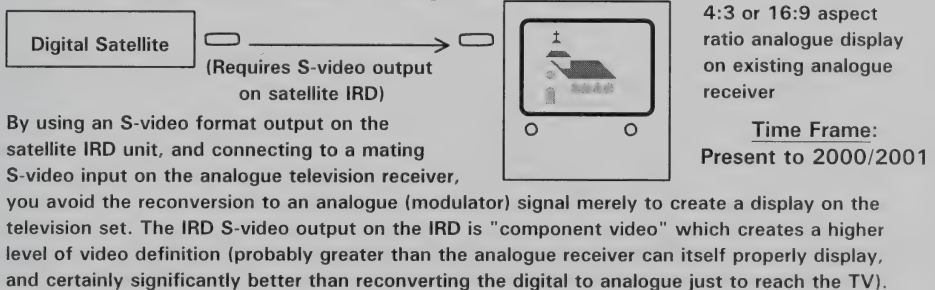
**STAGE ONE - Making digital format delivery work with analogue reception/display equipment**



match free to air (available to anyone with a receiver) programming and pay to view (PTV) programming simultaneously through a transmitter. In the United States, terrestrial broadcasters plan to continue their free to air telecasts on one of their "bouquet channels" and to offer additional programming, for which viewing fees will be charged, on remaining bouquet channels.

6) Consumer interaction built-in. Viewing television, listening to the radio until now has been largely a one-way, passive activity. Viewers have not been given an easy method of responding to information they see or hear except after the fact. Virtually all forms of digital receivers now contemplated provide a telephone modem and software allowing the viewer to "click on" to a return path creating an instant feedback loop for the viewer to the broadcaster. Now, how might that be utilised?

**STAGE ONE-A: Semi-digital display on analogue set**



Turning TV viewing or radio listening from a passive activity into a two-way, interactive activity will not happen quickly. Viewing habits are ingrained, and even the most optimistic think tanks studying the proposal believe an entire generation of new viewers will have to grow into the true utility of such a system. Building the equipment and creating the system for interactivity is no guarantee it will be widely used.

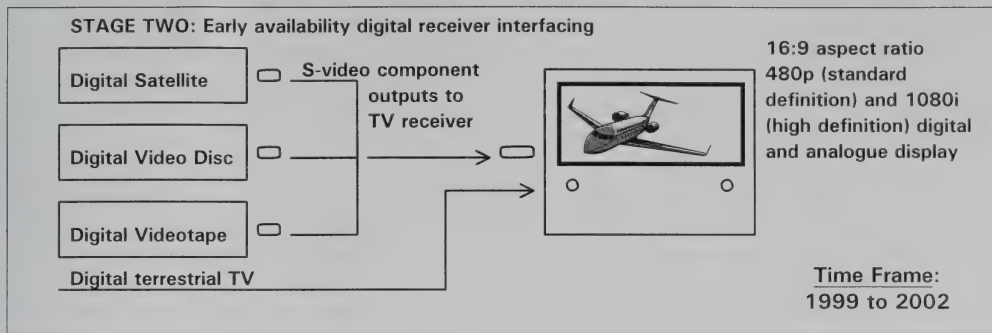
The Interactive World - As Envisioned in 1998

The secret to interactivity is to provide the home viewer/listener with a simple to operate, automated method of responding to material seen or heard. Digital receivers in their many forms (true digital TV sets, Integrated Receiver Decoders, Set Top Boxes) have or will have this capacity through built-in modems and special software created for this purpose. But the interactivity will only be complete when the transmission source "programmes" specially created "data circuits" that ride along with the normal TV or radio programming. An example.

An advertisement for a new Ford Taurus appears in the TV programming. The viewer wishes to know more, such as price, options, availability. Using the remote control, an "info" button brings up an on screen overlay which provides additional detail in text form. The viewer wants to know more about the car's engine, selects from the on screen overlay "engine specifications" and queries the appropriate on screen text line. New information appears giving detailed data on the engine.

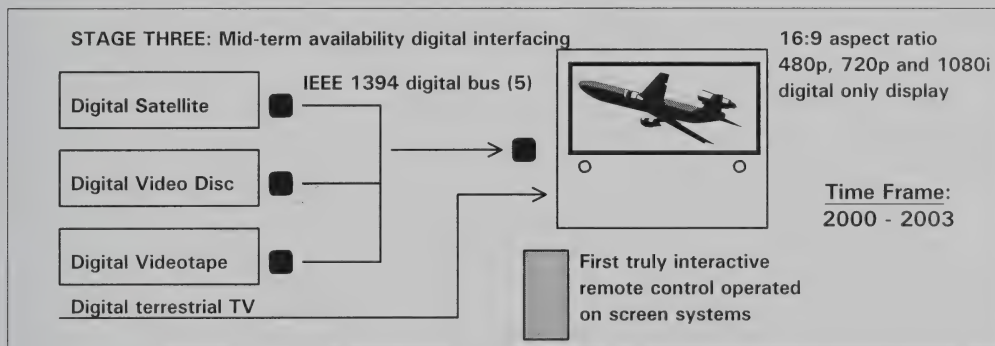






Interested in still further information, a text line on screen offers "Engine demonstration." Click onto that line and a 60 second video feature that shows engine construction appears on the screen.

All of this supplemental information is transmitted through the digital capacity of the system. The viewer selects what additional information he or she requires, and goes as far into the information as holds their interest. The supplemental information is "cached" in the memory circuits of the digital receiver system, and held there for a period of time even after the Ford Taurus advertisement has been replaced with non related material in the normal TV broadcast. The system works by constantly refreshing the supplemental information.



The two-way interactivity phase expands upon this example by allowing the viewer to actually purchase an item advertised or featured. The on screen overlays and supplemental video lead to a final choice - "*Do you wish to purchase this product?*" Keying in "yes" starts the IRD connection to the advertiser or source of the product. Inside the IRD is software which is custom to each viewer and viewing location. The IRD dials up the telephone order number automatically (having located that number within the data stream of the supplemental information), and communicates through the built-in modem with the advertiser's computer. Credit card or other payment information, shipping instructions are all automatically transmitted from the IRD to the seller's computer.

#### (5) How Will All of These Component Units Tie Together?

If DVD players, digital videotape, and satellite IRDs can only be displayed as analogue images on existing analogue receivers, how will they function with the first generation digital receivers? Unfortunately, you cannot simply plug one into the other. A special system, capable of handling the very high data transfer rates (19 to 50 Mbps) is required. S-video outputs on DVD players, tape machines and satellite IRDs is an interim - albeit hardly fully digital step. The first digital TV receivers will NOT have the ability to plug in a satellite IRD, DVD player or digital videotape machine. In fact, satellite IRDs such as those ordered by Sky NZ will not even have a back panel jack to allow interconnection to a digital TV set; viewers will be forced to watch the digital transmission in analogue format. The long term answer is something called IEEE-1394, a proposed standard allowing inter linking of digital video sources to digital TV receivers at the high speed bandwidths required. "1394" is several years away from production, guaranteeing early digital TVs will be outmoded very quickly (within 2 to 3 years).





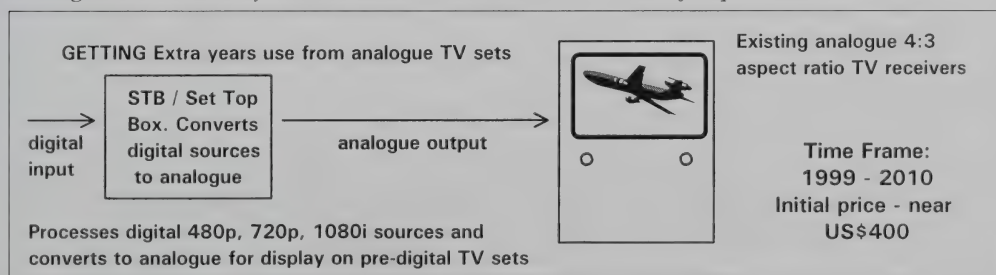
How revolutionary is this fantasy? Not very; similar "on-line" shopping is already available using Internet. The difference here is the speed with which it all takes place and the automated delivery of supplemental information that allows a passive viewer to turn into an interactive user. Internet, constrained at this time by the slow speeds inherent in transmitting and receiving data through already overloaded copper wire networks, is unlikely to be a serious competitor to high speed automated ordering and data delivery through the television (or radio) bouquets only a few years away in the future. The advantage to the broadcast use of digital is it will be significantly faster than Internet. From the advertiser's perspective, it will have instant feedback for product offerings. Television and radio advertising to this point in time has largely been akin to fishing. A line is cast into the water and the advertiser sits back waiting for a response. The potential customer can take days, weeks, even months to respond because response means making a special effort. The digital transition cuts the response time and effort required to almost zero. You see something that interests you, request supplemental information, and if "sold" on what you see, place an order for the product right there, on the spot, by simply answering an on screen question ("Do you wish to purchase this product?").

The societal changes likely as this technology becomes more widely employed are at best beyond accurate forecasting. Long term, the need for expensive store front locations for many product lines will diminish, perhaps even disappear. Stocking of identical goods in every regional shopping centre will gradually become less common. Warehousing will convert to shipping depots increasing the need for local and regional delivery services. Costs associated with product display and stocking will be reduced as centralised shipping depots replace store fronts. As one wag commenting on this evolution comments, retail shoplifting will disappear as retail outlets close down!

#### How Far Away?

Not as far into the future as you might guess. Some suggest ten years, others believe replacing analogue hardware with digital in every home in the world will not be sufficient to create the new world retail order. Personal habits, even opposition to losing local retail outlets will - some believe - require one or perhaps two generations of new "buyers" brought up on the "do it all from home" formula before the world we now know disappears, forever.

There are some aspects of this that will require a decade or more to sort through. Standards for software and hardware remains a significant challenge. In-home digital boxes must have the capacity to "talk to" supplemental information sources, automated order takers. The "language" of these exchanges is anything but written at this point and even further from being universally accepted. Microsoft, Java and other software names are especially keen that their proprietary systems become the "standard" for this new technology. Even the linking between digital boxes (a digital IRD to a digital television set, a DVD player to a digital TV set) is without "standards" at this point in time. TV set manufacturers planning the first generation of consumer receivers for sale late this year are reluctantly admitting their first products are unlikely to include "linking capability" for interconnection to external digital devices. Sharp's Senior VP Doug Koshima recently told an American group, *"There will be no way that we can deliver a perfect, complete (digital) TV by October. We have the ability to deliver sets that will handle 480p and 1080i ("p" indicates progressive scanning such as PCs use, "i" indicates interlaced scanning such as regular analogue TV now uses) but not the intermediate 720p format. We are being forced to incorporate an upgrade path into all of the early digital receivers because we don't believe consumers will be happy to learn their new digital TV set is likely to be outmoded and obsolete six months after purchase."*







### **Primary Stumbling Blocks in Road to Digital Conversion**

- ✓ Interconnection (You can't get there from here): Lacking establishment of a standard, no satellite IRDs currently manufactured or scheduled for introduction during the next 12 months include an output which can be plugged directly into a digital TV receiver (maintaining the source signal in digital format right up to the on-screen display).
- ✓ Which is understandable - because: No TV set manufacturer has announced a mating terminal on their digital TV receivers which would accept a digital signal source from onboard devices (satellite IRDs, DVD players, digital videotape decks).
- ✓ Therefore - all digital video sources will be either analogue output stage inhibited or at best S-video capable and it is unlikely "true digital displays" from other than terrestrial TV digital sources can be used by consumers much before the 2001 model year introductions.
- ✓ No TV set manufacturer plans introduction of PAL format digital TV receivers before the end of 1999 (all first year models are NTSC).
- ✓ No TV set manufacturer plans digital TV sets in screen sizes smaller than 50"/1270mm prior to the 1999 model year; pricing of these large screen, projection model NTSC digital TV sets will be upwards of US\$7,500 each.
- ✓ Standards for interactivity hardware and software, to allow viewers to communicate with and through their new digital receivers, are a minimum of two years and possibly as much as five years away. Lacking standards, numerous hopeful proprietary interactivity designs will be sold to the public with the likely outcome that most systems will be unable to function long term (i.e., after a standard is finally adopted, making early pre-standard designs out of date and incompatible after a standard is adopted).
- ✓ In Australia, digital terrestrial television will, by government order, be only high definition (720p or 1080i format). Simultaneously, satellite delivered digital in Australia will be primarily 480 format. In New Zealand, no indication yet how digital terrestrial free to air television will develop (if, in fact, it is implemented at all) while Sky NZ is adopting the 480 low or standard definition approach initially.

TVNZ's Neville Lane believes, *"In the digital situation, we see no advantage to being an early adopter of this technology."* JVC's general manager of strategic product planning agrees. *"I'm really afraid there are going to be pitfalls in the road to digital and just because there is a cliff doesn't mean we have to emulate lemmings and jump off of it."* Lane is concerned that *"not adequate testing"* has been done in terrestrial transmission environments similar to the rugged, irregular terrain of New Zealand. JVC's Klein adds to this view, *"I am very concerned about multipath interference with off-air antennas for at home reception. We simply do not know how much multipath (reflections from buildings, terrain) the digital signals will stand before the TV set is unable to recognise the data stream and simply quits performing."*

If terrestrial transmission of digital presents new, unique problems for home viewers, two competing delivery systems gain an advantage. One is the delivery of programming via satellite (which does not suffer from multipath) and the second is cable delivery (which in theory should be multipath free). In the UK and United States, the trend is towards providing both terrestrial (digital) broadcasts and unique-to-satellite broadcasts in single or multiple digital bouquets - via satellite. The UK's new Channel 5, faced with significant terrestrial delivery challenges, actually has a larger audience viewing them through satellite delivery than through terrestrial delivery means. Increasingly, broadcasters are realising they cannot stand alone as terrestrial service providers and ignore the rapid growth of satellite delivery. In the United States where satellite DTH viewers have access to 200-plus programme channel universes, broadcasters are measuring audience reductions parallel to the growth of satellite service subscription. Viewers who formerly received both local TV and specialised channels on cable, when leaving cable for satellite (it is often less expensive and more appealing than cable) are losing their high quality "local TV reception" which was previously available on cable only. As this erosion continues, broadcasters are beginning to see the wisdom of being part of the satellite delivery "bouquet" to maintain parity with the plurality of services available on satellite. It is one thing to be part of a 200 channel universe - and quite another matter to be totally left out of that universe and unable to reach viewers who previously depended upon cable for access to local channels.



# TECHNOLOGY BYTES

...BITS and BYTES you may have missed in the rush to make a dollar ...

April 29, 1998 ♦ VOLUME 98-4-46

## Satellite TV and Radio

NBC Asia will terminate transmissions on July 1, 1998. The popular channel (7 million subscribers claimed) service is being replaced with National Geographic Channel Asia (NGCA). NBC Asia has been largely programmed with USA imports originating at the parent NBC network. Same day and often same time release of NBC Nightly News, The Today Show, Late Night with Colin O'Brien, Dateline and MSNBC has created a US flavour service which is carried by cable and DTH packagers from India to Japan. NBC affiliates in Asia and the Pacific were formally notified of the cessation of NBC Asia service on April 21 by Bryan A. McGuirk, Vice President of Distribution for the service. The sister service, CNBC Asia, is not affected in Asia and the Pacific by the termination of NBC Asia although in Europe CNBC will be expanded to include six hours per day of NBC news material. In Asia, NGCA will have four hours per day of NBC material. NBC Asia is dismissing 75 employees in Hong Kong, CNBC will continue to be headquartered in Singapore. NGCA is 50% owned in Australia by News Corporation's BSkyB; New Zealand coverage of NGCA is not yet defined although News Corp's Foxtel service does plan carriage of NGCA in Australia and has been carrying National Geographic Channel Worldwide since September 1 (1997). The formal announcement originated at NBC New York and was fed to affiliates through the NBC Hong Kong office. NGCA will have its corporate headquarters in Singapore although NBC and CNBC will continue to operate news bureaux in Hong Kong. SatFACTS for April 15th reported an advisory from NBC Asia they would not be encrypting their PAS-2 digital feed "before late 1999, or, 2000."

**Optus Vision DTH** tests carried on B3 (Hz, 12.564, 12.626 at 29.473 and 3/4) turned off audio portion on 15 of 16 programme channels April 15 (audio for TVSN was left on). CTD understands Optus Vision will do a "soft launch" of DTH service using these transponders with conditional access around the 1st of May, and add additional programme channels shortly. There are two instant problems: *Finding receivers for the service and locating the necessary smart cards.* A spokesperson for Optus told CTD, "We have approved receivers from UEC and Comstream/Panasat for this service." The only receivers known to be available at this time are the UEC 642 model which are being brought in through Brisbane's Nationwide Antenna Systems (tel 61-7-3252-2947). Nationwide advises their initial shipment (40 receivers) was for field analysis of the Optus Aurora project and while the same 642 IRD will function for the Optus Vision DTH CA trials, this was not their intended purpose. A spokesman for Pace denied his firm is involved in receivers for Optus Vision DTH. Cards? We suggest you contact Charles Gregory at (61-2) 9342-7800 and check SatFACTS for May 15th.

**Irdeto** advises CTD that no additional receivers are currently being tested nor scheduled for test in Holland on behalf of the Aurora project in Australia. UEC and Comstream/Panasat/Panasonic completed their tests during March. Watch for probable name change here - Irdeto to SECCA.

**Aurora project.** "Not over until the fat lady sings." While UEC may believe it has the initial order for 10,000 RABS trade out units in the bag (SatFACTS April 15, p. 32), CTD understands from sources at Optus there are some not insignificant problems remaining to be worked out. The heart of the problem may turn out to be the "unique" Divicomm format uplink. As CTD heads for press, there are persistent reports from Sydney detailing a myriad of newly discovered "problems" which seem to be tied to the use of the Divicomm uplink with the Optus mandated Irdeto conditional access system. Increasingly, it looks as if the June first date for rolling out the first Aurora CA RABS IRDs could either miss or be done with the CA system turned off.

**ApStar 2R** programmer 'Plus 21' adult erotic material operator is Global Internet Limited. Their service has been available in Europe for more than one year, ApStar 2R extends it to much of Asia and includes Australia (76E, 3787 Hz, MPEG-2 PAL, Msym 6.110 and FEC 3/4; video PID 2160, audio PID 2120) - but not New Zealand. Promos on air list following contact numbers for subscriptions: Tel ++91-172-552119, ++91-172-554-331/552-119 and fax ++91-172-553-014. Subscription appears to be wrapped with purchase of decoder; US\$650 inclusive of first year's service (service starts 1430 UTC daily). Service had tested on Palapa C2 but moved to Ap2R apparently after Indonesian operators of C2 realised service includes adult content which they do not allow.





### Some Detail Concerning Sky's Pace Microsystems' IRD Box

Sky revealed in a press release issued April 20 the pay TV firm has reached agreement with Pace Micro Technology for 50,000 integrated receiver decoder (IRD) units. The release went on to advise there will be a further delay in implementation of the Sky digital package with the first IRDs scheduled for arrival in October or November, and, a two month period to follow while existing analogue satellite subscribers are changed out for the digital product.

**The Dominion** (newspaper - Wellington) further reported, "*Sources close to Sky said the first of 50,000 decoders ordered were due to arrive on October 15, with a penalty clause taking effect if the first shipment had not arrived by November 1.*" **The Business Herald** (Auckland) reported, "*The deal with Pace is believed to be around \$35 million, making the cost of each individual set-top box about \$700.*" The Dominion on this subject said, "*The digital decoders would cost Sky about \$800 to \$850 each, which meant the company would not overshoot its original target of \$130 million installing its digital infrastructure.*"

In fact, the price being paid by Sky is close to US\$340 per IRD or NZ\$595 (plus or minus day of calculation). It has become fashionable in the general press to either ignore costs for other bits and pieces for a DTH system (antenna, LNBF, cables, et al) or as the Dominion appears to have done, roll all costs together and attribute them (" \$800 to \$850") to the "decoder" alone. For a break down of actual per home costs, see CTD 9803, p. 3 which calculated a DTH system with a Sky-class of decoder would cost not less than NZ\$887 installed.

The Herald reported, "(Sky) expects to be able to install digital decoders to homes at a cost of about \$800 to \$850. How much of the cost would be passed on to subscribers had not yet been decided." The Dominion wrote, "(the) digital service will cost the customer about \$650 to install plus a monthly subscription fee determined by the number of channels taken." As CTD reported in issue 9803, the question of subsidy by the DTH programmer of the hardware costs has been a crucial element in DTH success (and failure) to date. If in fact Sky does plan to charge digital subscribers \$650 for the installation, that would leave a subsidy of approximately (NZ)\$237 to be carried by Sky on their books. With 300,000 subscribers (i.e., the conversion of their present subscriber base to digital), Sky would be investing (NZ)\$71,100,000 in the subsidy programme. If Sky earmarked NZ\$5 per month out of subscription income to pay off the individual subscriber subsidy, approximately 48 months of reduced subscriber income would result (the period of time that the subsidy is being repaid). If Sky charges significantly less than \$650 for the installation, the cost of the subsidy programme rises and the term over which the subsidy is being repaid from subscription revenues increases (p. 5, CTD 9803).

What we know about the Pace IRD raises additional questions not answered by either The Dominion or Business Herald reports. First of all, the IRDs are described by Pace as "*a standard NDS format conditional access IRD.*" Translation? "*This is not the Rolls Royce of our IRD line.*"

For example, the decoder "*is not designed for any free to air broadcast reception. It will only process conditional access, addressed services.*" Yes, the IRD has a modem. **No**, the modem is not capable of high speed transmission. **Yes**, the IRD will be equipped with an electronic programme guide (EPG) function. **No**, it will not allow the user to "do sophisticated, multi-week viewing planning in advance." **No**, the IRD is not equipped with any type of digital "throughput" which simply means that as PAL format digital television sets become available in New Zealand, there will be no connecting the IRDs directly to the TV sets for digital display. Yes, the IRD will be equipped with an S-VHS output and that will allow component video interfacing for high quality analogue display. In other words, the benefits of digital will by the choice of this IRD be limited by the intermediate analogue output of the IRD (see p. 5, here). A Pace spokesman advised CTD, "*This is a good IRD, not our best and certainly not up to the sophistication of the B-series units we are supplying to BSkyB in the UK. This IRD is identical to those we are now supplying to Brazil and Mexico (DTH platforms owned by Murdoch), only this one will function in English rather than Spanish or Portuguese.*" How this IRD is being sold to subscribers in South America will be the subject of a future CTD report.

There are no prototypes nor test samples currently in New Zealand (Pace spokesman - "*They have no model number, they have not yet been built, there are no prototypes available for testing*"). Sky had originally announced it would have test signals broadcasting in May - no update on that but this seems unlikely now. Pace will return to New Zealand late in May for "*final signing of the paperwork.*"





**Russian Intersputnik** (tel ++7-095-244-03-33; fax ++7-095-253-99-06; email [dir@intersputnik.com](mailto:dir@intersputnik.com)) now only operates Express 6 at 80E and Gorizont 42 at 122E (which is leased to AsiaSat who call it AsiaSat-G while waiting for AsiaSat 4 to launch to this position). Intersputnik confirms failure of transponder 6 (3675) high powered service on this satellite; all remaining operating transponders are northern beam only (see SatFACTS Magazine May 15). All other Russian Gorizonts are now operated by Russian Space Communications Company (RSCC), including mostly useless birds at 96.5, 103.1, 140, 145 and 161 (all east). If you require information on this group, contact Mr. Yuri Kiyashev at fax ++7-095-924-62-92. RSCC recently moved 96.5E satellite further east - some say to 99E which would be only 1.5 degrees west of AsiaSat 2 at 100.5E) where nominal traffic includes weekend service from Madagascar on 3825/1325 RHC. This frequency is very close (indeed - almost on top of) twin programme channel MCPC service for Inner Mongolia (3828 Hz) and regional Chinese JSTV (3827 Vt) on As2 and at 1.5 degree satellite spacing is bound to be causing problems for the Chinese digital services.

**RFO-1 and RFO-2** MPEG-2 digital service feeds now transmitting on Intelsat 180E (4095/1055 LHC) may claim to be on a "global" beam but reception reports to sister publication SatFACTS suggest otherwise. If you are in (Queensland) Australia, a 3m size dish will work on this package as well as east through New Caledonia to Tahiti. Further south in Australia, and for most of New Zealand, even dishes 4m in size refuse to produce the service and NSW reports tell of only marginal, high bit error rate service on 5m range dishes. The RFO-1 and RFO-2 services are being fed through Canada to Tahiti and New Caledonia for taping and delayed use by terrestrial RFO Pacific broadcasters. Four additional dishes, including one for Wallis (Futuna) which is a French territory north-east of New Caledonia are out for bid at this time by RFO; two in the 7m range, two 4.5 metre. RFO is insisting dishes be Intelsat certified and capable of transmit as well as receive.

**Chilean service**, available FTA on PAS-2 for several months (within California bouquet) closed down April 15th per prior announcement. Station says it needs 3,000 "subscribers" in Pacific, willing to pay US\$2,000 for a satellite decoder and US\$30 per month for the single channel service to reappear on satellite. The "decoder" would be the Scientific Atlanta D9223 IRD. US\$90,000 per month (3,000 x \$30) suggests the station would more than break even on the venture (a programme "slice" going for under US\$50,000 per month these days).

**French TV5** replacing French CFI on Palapa C2. Original plan was for CFI to cease, TV5 to take over coveted C2 spot (4160/990 Hz) March 4th. it did not happen. French magazine Broadcasting in April 22 edition reports CFI board gave final approval to transfer of Palapa space and transition is now scheduled for May 1st. CFI has been FTA French export TV product, encouraging CATV and SMATV carriage. TV5 fills similar function but is more private sector oriented that CFI which is largely French government funded. CFI as a service will become occasional feeds operator and no longer maintain a daily schedule of programming.

**AsiaSat 2** service levels in New Zealand have fallen by more than 1 dB on both vertical and horizontal transponders in last 30 days. The horizontal side has always been as much as 2 dB better than vertical., that difference is now enlarging although AsiaSat denies there has been a change in their operational parameters.

**PAS-2 RAI/ART MPEG-2** service (4253/997 Hz) went down by as much as 3 dB during late March and through mid-April producing hundreds of telephone calls to PanAmSat and DTH equipment suppliers throughout New Zealand and Australia. Previously, 2.4 to 3m range dishes had accessed the FTA package which is especially popular because of the uncensored Italian football content. RAI (Italy) and AAR/ART (middle eastern broadcasting groups) are carried by Optus Vision cable TV, may be included in Optus Vision DTH package when (or if) it launches. Immediately, DTH retailers assumed Optus Vision was behind the power reduction, since it had the effect of shutting down service for Italian and middle eastern origin viewers in Australia and New Zealand. Apparently there was no conspiracy here. The bouquet returned to its pre-power down level after mid-April, and PanAmSat explains they were conducting "power balancing" of their PAS-2 transponders during this period. The real truth may be less complicated than power balancing - the annual twice-per-year solar equinox periods create extra power demands on all satellites, and one way to "get through" the extra hours of darkness is to reduce all operating power levels on the satellite. The period of down powering of this bouquet corresponds almost precisely with the solar equinox dates.

**Not good news** for New Zealanders hoping to tap into Australian ABC, SBS and other domestic services when digital is launched later this year. Tests funded by ABC and Optus found ABC on vertical transponder. B3. were barely 1 dB above threshold on Norfolk Island on 3m Ku rated dish. That's not favourable for New Zealand which is more than twice the distance from Australian mainland as Norfolk. ABC is recommending 12m (!) dish for Norfolk digital reception to feed local TV stations; present B-MAC analogue works fine on dishes down to 3m in size.

**Worse news** for New Zealanders presently tuning in Australian ABC "Interchange" service on PAS-2 Ku (12.629/.638/.646 Vt). ABC plans move to PAS-8 when this satellite is operational (late 1998). Why bad news? Because PAS-8 has no coverage into New Zealand on Ku band. None at all (well, with a 5m Ku band dish - perhaps). PAS-8 Ku footprints are even tighter to Australian coastal line than Optus footprints.



### **STATUS REPORT: Interconnection of Digital Video/Audio Devices**

The challenge: A common "language" for digital audio and video products which will allow different brands to connect and interoperate as a "system" in a typical consumer environment.

The reality: There are no industry standards, each consumer electronic brand has chosen its own "interfacing" system. Effected: Digital television sets, VCRs, DVD players, digital tape decks and a myriad of other products not yet into the hands of consumers. Solution? An agreement amongst manufacturers how they will bring digital transport streams to the rear deck of equipment, how microprocessors inside of each device will "talk" with other microprocessors in the home system.

An 8 company alliance (Grundig, Hitachi, Matsushita, Philips, Sharp, Sony, Thomson and Toshiba) are proposing "open standard" based around so-called IEEE-1394 interface. Concept is for non-proprietary control commands; at present each manufacturer ensures consumer "loyalty" by building interfaces that only talk to products from the same manufacturer.

Future of "open standard" interfacing goes far beyond relatively simple in-home applications now stopping digital product development.

Sony believes, and has demonstrated working models, of "smart AV devices" capable of downloading, storing and distributing data streams. Sony's concept is that digital TV (whether by satellite or terrestrial), telephone lines, even DVD (discs) can carry in piggyback fashion additional data streams "in the holes" remaining after normal content is transmitted; not unlike having a "standby" ticket for an aeroplane flight. Sony suggests "smart AV" (audio or video) can receive and store such material allowing consumers to access it on demand, optionally, for a fee.

A "universal home network system" is not a new concept; as far back as 1985, when D2B (domestic digital bus) was proposed by four major firms. What has been missing until now is the wide scale adoption of digital transport stream technology for virtually every level of consumer electronics. Now the digital age is finally arriving, the incentives to create an "open standard" is increasingly important. Outside the 8 company alliance, Microsoft has attempted to push their "Windows CE" (consumer electronics) programme with limited acceptance. Ten months ago, NEC (which is not presently a member of the alliance) announced an infrared relay system to interconnect all of the electronics in a household to a common network. NEC also proposed using the IEEE-1394 standard to go into and out of individual CE pieces.

The IEEE-1394 system depends upon copper wires or small fibre optic line as the transmission interconnect. There are design limitations: Hard (copper) wire interface links are limited by laws of physics to runs of under 4.5 metres, a barrier crossed only with installation of repeater amplifiers. Hardware for IEEE-1394 apparently is established, if not universally accepted; what remains to be sorted is the software required to get maximum utility from the "standard."

Cable set-top boxes presently present a special concern as they are incapable of processing 720p or 1080i according to Sony. The likelihood is that cable set-top boxes will be able to "pass through" 720p and 1080i terrestrial signals directly to the TV receivers, perhaps through the IEEE-1394 interface. The cable industry says cost is the problem - a US\$300 set-top box is today capable of handling only the 480p (or 480i) formats.

DTH pay television via satellite is not going to be easy either as there are no IRD (integrated receiver decoder) units for DBS which can process HDTV in any format.

Nobody ever suggested the transition to digital was going to be inexpensive nor without some technical challenges.

**Indovision** top management responsible for planning and implementing that firm's future get lower and lower marks for their performance each month. Indovision - the original service - was four channels of B-MAC analogue distributed on Palapa C2. That was before they signed on with the Rupert Murdoch Star TV group to take over day to day business management. Murdoch's people promptly created plans for a 20+ channel two transponder digital bouquet, using another pair of C2 transponders and brought in the first shipment of Pace DVS-211 receivers in February 1997. Sales did not go well, Indonesians seemed little interested in paying more money for more channels plus being required to invest in a new receiving system. Last October Indovision began turning off the B-MAC channels, one at a time starting with the Cartoon/TNT service. The last of the four to go silent (\*) was HBO Asia on April 15th. The plan here was to force the reluctant-to-upgrade-to-digital Indonesian pay TV customers to invest in digital. Over 55% of their analogue base had refused various offers, premiums and threats of discontinued service as of late February. So as of mid-April, HBO Asia was gone having followed





ESPN and Discovery into the never-never world of digital. All of this was happening at a time when political unrest was rising, Indonesian currency had devalued at an alarming rate, tens of thousands were taking to the streets to protest their government. If you think their timing might have been bad - guess what happens next! Indovision has released an official statement telling their subscribers that now they have migrated to digital service from Palapa C2, as of May 1st Indovision will be moving its digital service from C-band Palapa to S-band Catawarta. What this entails for people who have recently spent money to go digital is another expenditure - this time for a new feedhorn (their C-band feed is useless at S-band), a new LNB, perhaps a new dish, and some hours of technician time to retrofit their dish with the new parts and then move it from Palapa C2 to Catawarta S-1 (which is further west in the sky). Indovision warns it will turn off the Palapa C2 service July 31st and viewers have only three months to make changes in their receiving systems. If any of this makes sense to you, there is probably an open desk job waiting for you in Jakarta. (\* - Actually, HBO Asia did not turn off its B-MAC service; it continues but only as a feed to Taiwanese and other selected Southeast Asia cable TV headends. What they did was turn off the B-MAC decoders for all but their cable customers.)

**Intelsat 505** is currently at 72E (having previously been at 66E) but no transmissions have been observed. The satellite's zone capable beam includes a 27 dBw contour which covers much of Australia.

**May 8th** is revised launch date for Echostar 4 satellite with Russian Proton launcher. Reason for interest in Pacific: It will go to 119W (not in our view) while Echostar 1 at that location will move to 148W (which, although having North American footprints, could provide fortuitous reception in some Pacific locations). Echostar operates (Ku band) DTH services for North America. Echostar's 1997 year end financials show firm losses jumped from 1996 US\$100.9 million to US\$312.8 million. The cost of "subscriber acquisition" (read: Subsidies to sign up new subscribers) for year averaged US\$330. High profile court case with News Corp over failed merger is scheduled for November (1998) with Echostar alleging "breach of contract." News Corp response in counter suit alleges "bad faith negotiations" and "unreasonable demands."

**DBS programmer Primestar** is reducing entry level monthly pricing from US\$32.95 to \$19.99 provided subscribers purchase rather than lease equipment package.

**SkyPerfectTV**, merger of News Corp JSkyB and Sony's PerfecTV, begins combined operations May 1. Competitor is Hughes DirecTV Japan.

**US Court** has awarded sizeable sum to Hughes for third time over objections of US government. Hughes claimed US took their satellite technology and used it to launch military and other satellites during period 1963-1982, and did not receive Hughes permission nor pay for the technology. Original 1994 court decision awarded US\$112 million to Hughes; final decision raises award to US\$145 million including interest since 1994.

**Booklet** describing the universe of Intelsat satellites with technical data and coverage maps for each satellite available from (Intelsat), 3400 International Drive NW, Washington, DC 20007 (USA) (tel ++1-202-944-7500, fax ++1-202-944-7890).

**Booklet** describing PanAmSat world family of satellites including those planned available from (PanAmSat). One Pickwick Plaza, Greenwich, Ct. 06830 (USA) (tel ++1-203-622-6664, fax ++1-203-622-9163).

**Hyundai shut down** all production of satellite IRDs "until further notice" late in March. There is no corporate explanation for the closure of production facilities although sources close to Hyundai report there were at least two major reasons: (1) Hyundai has failed to achieve sale of its product line to DTH programmers, which meant they had no contract production base, and, (2) the Korean soft economy is creating similar scenarios throughout the country as non-profitable segments of major corporations are being shut down until the economy improves. Australian distributor SATECH reportedly purchased the final HSS-100 series (free to air) production run along with spares for servicing.

**Rash of new MPEG-2, FTA family**, IRDs will hit the streets during May. Most of the new products are later generation derivatives of the original Nokia E3 receiver first introduced in 1996 and while some are from Korean factories, most are from Taiwan. The Asian "copiers" are about to be one quantum leap generation behind the real innovators in this field as Pace and Nokia prepare to reveal single chip IRDs (all processing is done from RF input at IF to demodulated audio and video output in a single 128 leg IC) with pricing that reportedly will be as much as 40% below the best FTA prices now available. Stand by for clearance sale pricing from Asian firms who will shortly discover the IRDs they have so carefully copied during the past 18 months are now out of date.

**Scientific Atlanta**. Just when you think (and perhaps hope) they could not possibly do something more foolish than their last goof up, they pull a rabbit out of the hat and top themselves. Here's the scenario. Tiny EMTV in Papua New Guinea, once free to air and serving viewers from Tahiti to India at 142.5E, but more recently moved to AsiaSat 2 and to one of the weaker digital transponders, has been struggling for nearly six months to get their SA PowerVu operational. Mostly the system has been plagued with operational glitches, virtually all viewers even in the target country of Papua New Guinea have lost the service because of poor satellite coverage compounded by often troublesome SA compression techniques. To be fair to the SA Sydney engineering staff given the task of making EMTV function, a few days in Port Moresby probably ranks up there close to a trip to





Kabal (Afghanistan) for a white Christian lady with feminist rights leanings. Not desirable. So when the Sydney engineer arrived in Port Moresby in mid-April to finally turn on the EMTV encryption (conditional access) system - perhaps he should be pardoned for neglecting to properly "proof" his own work. Apparently believing he had turned EMTV from FTA PowerVu to CA PowerVu, the engineer beat a hasty retreat to home port in Sydney probably hoping he would never be forced to return to PNG. Alas, something he did was not right. EMTV engineers were convinced their system was CA and secured until a CTD reader with a non-authorized receiver called them on April 21st to enquire when they planned to turn the CA on. "*It is on*" shot back the EMTV engineer. Not quite. In fact, not at all. EMTV management genuinely believed the service had been encrypted and are more than slightly peeved the SA engineer was so anxious to return home that he did not take the time to verify his own work. It happens that a D9223 receiver will read "CA - not authorised" without respect to whether the CA is turned on or not. Unfortunately, the designated SA receiver for this service - the D9234 model - played right on without even noticing whatever it was the SA engineer had done. SA thus earns the "PNG Engineer of the Year" award for never quite getting it right.

**Vtech**, known for 900 MHz wireless telephones, is latest firm to be signed by US DTH provider Echostar to build IRDs. Firm is located in China, previously was analogue supplier for Echostar Houston Tracker series. Others building IRDs for Echostar are Philips (scheduled to begin delivery of IRDs after July), SCl and JVC. The JVC unit is unique digital VHS deck with built-in MPEG-2 IRD that presently is sole device to allow direct satellite digital recording in MPEG format.

**US firm**, Northpoint Technology, is asking FCC for permission to utilise unused DBS frequencies to deliver terrestrial TV to homes already equipped with dish antenna systems. Concept is to place digitally compressed local area TV channels onto unused spectrum, coupled to existing Ku band dish system, allowing dish owners to access both satellite and local TV (plus Internet) programming through one "pipe."

**TVSN**, satellite delivered Pacific and Asia home shopping channel, is moving corporate offices May 1st. New address is 35 Herbert Street, St Leonards NSW 2065, Australia (tel ++61-2-9513-8000; fax ++61-2-9513-8097).

**BBC and Discovery** deal is now finalised. Advertising supported BBC America launched March 29 through Discovery digital platforms in North America. BBC and Discovery are expanding to world coverage Animal Planet and People & Arts programme channels.

**Ted Turner's** much reported gift of US\$1 billion in United Nations, based upon his sudden personal enrichment with Time Warner stock, has not been without reward. Since Turner's announcement last September, value of his personal held stock has increased US\$870 million to US\$4 billion. Larry King will interview Ted Turner at closing session of NAB show (1PM EDT May 6th - Thursday here in the Pacific).

**High cost of piracy.** U.S. District Court, Seattle, has awarded US\$2.3 million in damages to DirecTV and NDS Americas (owned by Murdoch group) from two individuals who had cracked the DirecTV security system and were making a nice living from selling counterfeit DSS cards. Unrelated in the UK, ex-disc jockey Chris Cary was sentenced to 4 years in prison for marketing counterfeit BSkyB smart cards.

## **Digital TV & Radio**

**"Set-Top Wonder"** is new US designed convergence technology box scheduled for release last quarter of year. Device will process Internet, videogames, DVD and MPEG-2 video. Features: ability to scan 16 separate TV channels in on screen boxes and instant replay of last ten seconds of video on channel being watched. Manufacturer is ATI Technologies.

**Pixels** (individual picture points, equivalent to "dots" in newsprint photos) as an indication of what constitutes high definition TV: Standard NTSC - 150,000 pixels per image; 480p digital - 300,000 pixels; 1080i digital - 1,500,000 pixels; and, 1080p - 1,870,000 pixels.

**European adopted COFDM** versus American VSB method of transmitting high definition television. COFDM requires 250% more transmitter power than VSB to create same terrestrial coverage area.

**Final form for Japanese** conversion to digital television falling into place. Broadcasters will be allowed to conduct "short" test broadcasts between 2000 and 2002, with goal of having DTH operational in 3 major population centres by end of 2002. Remainder of Japan will have until 2006 to complete digital conversion, which will operate in parallel to existing analogue network. Japanese broadcasters believe it will cost in excess of US\$8 billion to create digital parallel system plus cost for each home to re-equip for digital service reception.

**Intel has signed** agreement with Hitachi to incorporate All Format Decoder (AFD) into new Pentium equipped PCs by end of this year. Hitachi is originator of a system that can process any of 18 different digital television formats to a standard display for PCs. Intel plans to have AFD capability as part of the "standard package" of software tricks in computers by this time next year, believing that because 90% of the hardware in a PC is already in place to process DTH formats to a PC, the extra ability can be added to the system "at low price points."



### Quotable Quotes

Dusty Bowling, Chairman of Musicland retail chain in America about the excitement created by DVD: *"It is now time for a new configuration to come along and give new excitement to the business that we all love. The goal here is simple, make people want to buy the same thing all over again in a new format."*

Paul Brindze, President of DIVX Entertainment: *"The (movie) studios estimate between 25 and 60% of all DVD titles now being shipped are ending up in the hands of consumers 'overseas'."*

Andrew Setos, Executive VP of Technology for Fox Network (USA): *"There is only one interlace format (for digital/HDTV). With progressive, there are 3 resolutions (480, 720, 1080) with 3 frame rates and 2 aspect ratios. We like the progressive environment because it allows us to respond differently to each (programming) project. Progressive also makes it easier to eventually change (all transmissions) to 1080p which is the ultimate in HDTV technology (today). I don't want to pollute our archives with old fashioned interlace technology material; interlace is an obsolete technology held over from the television analogue days of the 1930s."*

Preston Padden, President (USA) ABC Network: *"We have chosen 720p over 1080i because it offers highest picture quality of any (currently) available format. It eliminates all interlaced artefacts and provides clearly superior rendition of motion in addition to being more compatible with computers. In choosing 720p, our network is also preparing for the next generation of flat-panel displays which we believe as the prices come down will 'drive adoption of HDTV'. And, the 720p format is instantly compatible with the cable television's announced intentions to make this a pass through for set-top boxes."* (Note: 67% of US homes are cable connected.)

Robert Stearns, CEO of Compaq: *"ABC and Fox required a lot of courage to announce their support of the 720p format. This makes good business sense because 1080i is a bad place to start. It is a pig and it is going nowhere."* (Note: CBS network in USA continues to be committed to 1080i format.)

Larry Jacobsen, President Fox TV Network: *"We are not in the broadcast business anymore. I draw a parallel to the railroad barons who thought their primary business was the railroad, not transportation. We are in the business of delivering entertainment and information; digital is a wonderful opportunity for all of us."*

Mitchell Kertzman, CEO Sybase on why television and computers are on an unavoidable convergence course:  
*"One, and zero."*

Robert Iger, President and CEO (US) ABC Network: *"Internet provides a great opportunity for TV networks. All Disney and ABC operations are developing complimentary (Internet) computer applications to TV programming. The change now affecting TV programming is far more sweeping than most understand and expected; we cannot afford to stand still and watch it happen to us."*

Robert Bednarek, Chief Technology Officer for PanAmSat: *"The growth of Internet traffic on satellite is close to exponential since its debut one year ago."*

Steve Guggenheimer, Microsoft Group Product Manager - DTV: *"The cost of doing 1080i does not make consumer sense. We already know we can do 720p using inexpensive cards at 24 frames per second. Doing 1080i increases the cost of manufacture by a factor of 2 and getting that price differential down is, I believe, two or more years into the future."*

### Consumer Electronics

**DVD players** sold through American distributors totalled 34,236 units in February, 34,027 in January. Virtually all players sold in world through March went through North America on way to their ultimate destination. Just for comparison, February VCR sales in US were 1,101,000.

**Latest DVD releases** include Academy Award winners "L.A. Confidential" (released April 14) and "As Good As It Gets" (May 19).

**Toshiba is introducing** model SD-K310 second generation DVD players to Australia (and Latin America) market at this time. Supporting launch, introduction of Warner Home Video (video) discs. Toshiba's player sells for US\$700 inside of Japan, no pricing in Australia has been announced; they forecast sale of 100,000 players in Australia in first year.

**DVD launch in UK** is pricey. Pioneer DVD player (DV-505) is Sterling 450, combo DVD and laserdisc player (DVL-909) Sterling 900. Region free players have been available in the UK for nearly one year, trans-shipped from US sources. Panasonic (DVD A300) model is available at Sterling 500. Some discs are





### **SOC - System On a Chip Progress**

A flurry of announcements from several prominent chip manufacturers who seem to have all discovered "system on a chip" success at about the same point in time. National Semiconductor believes its new chip will reduce sub-(US)\$1,000 home PCs, a recent price break through, to under US\$300 by mid-1999. Other brands with similar break throughs - Motorola, TeraLogic, Sun Microsystems, IBM, and LSI Logic.

causing playback problems with "region free" players, in particular those with Buena Vista (Disney) and Universal labels. "Region-free" players are targeted for extinction through next generation upgrade in response to the concerns of movie rights owners.

**New DVD players** coming into marketplace: Samsung adding two new models before September, Tatung has single model at about same time. Tatung is primarily manufacturer of PC monitors.

**US\$33,000** for limited edition minicomponent audio system on offer from Kenwood. Production delivery is 90 days after order. "Silver Signature" has front panel and control knobs finished in high grade silver metal.

**Microsoft's WebTV** now has 300,000 subscribers, 30% of whom are 50 years of age or older. Company believes target marketing to older generations who are interested in gaining access to Internet but not willing to invest in equipment nor learning curve for normal home PCs is fundamental to appeal of WebTV. New Windows 98, when formally released, will have WebTV software included.

**C-Cube promising** single chip MPEG-2 decoder and encoder at US\$50 or below in 1999.

**JVC has shown** prototype of D-VHS home recorder that is capable of decoding 18 different ATSC/DTV (digital) formats. Recording rate is 38.28 Mbps with a 28 Mbps data transfer speed; both beyond the 19.1 Mbps requirement of HDTV. JVC believes pricing will be around US\$1,200, about a \$500 premium over comparable analogue decks. Recording time - 3.5 hours in standard play, 7 hours in extended. Delivery? Mid 1999.

**Intel has shown** Pentium processor chip that operates at 700 MHz speed. Current fast Pentium chips available for PC design operate at 333 MHz processing speed; 400 and 450 MHz chips are scheduled for release before June. Primarily new value of 750 MHz speed - PCs so equipped with be capable of performing voice recognition.

**Apple Computer.** down but not gone, is promising under US\$1,000 home PC by October. Currently, Apple Macintosh G3 models start at US\$1,700 (suggested retail pricing) as more and more of the home computer market is swinging to under \$1,000 starter systems.

**America OnLine** reports average on-line use of computers rose to 46 minutes per session in February. 50 minutes in March. He makes point that increased usage of on-line services must be at expense of users doing something else "for less time." Watching television is primary suggested source of additional on-line time.

**DIVX**, rent, watch and throw away proposal for DVD, will test market system in Richmond, Virginia and San Francisco. Early players are by Zenith, up to 100 DIVX/DVD titles are expected by end of May. DIVX discs will retail for US\$4.50 each of which retailers will pay \$3 per disc. Studios will collect \$1.50 of that \$3 as their cut for each title sold, discs plus boxing are costing US\$.90 each which leaves approximately US\$.60 for DIVX creator Circuit City. Contentious debate about DIVX continues. Backer Circuit City claims all standard DVD discs will work on DIVX player to which other manufacturers retort, "*But your DIVX discs will not play on the 12 brands of DVD players already in the marketplace.*" The DIVX discs will play an unlimited number of times over a 48 hour period that begins when disc is inserted into DIVX player and consumer presses play button.

**Security of DIVX code** is in question. New York Times (newspaper) report said DIVX has built their DVD security system around something called Triple DES (algorithm) and National Institute for Standards and Technology (NIST) has delayed adoption of this system because they believe it can be hacked. Actually, Triple DES is widely used by banks and military world-wide. None the less, scientific paper to be presented in May by two researchers at Israeli Technion attacks Triple DES as "fundamentally flawed." DIVX web site describes Triple DES as "*possibly the most secure encryption system in use today.*" DIVX has gained major support from movie studios largely on back of claim for "robust encryption" technology.

**Hottest consumer electronics** item in Russia? Radar detectors. Manufacturer Cobra has six band radar interception / warning device scheduled for introduction this month, to be named "Comrade."

**Video game piracy**, software and hardware, exceeds US\$3.2 billion per year in sales according to Interactive Digital Software (trade) Association. More than 55 countries are listed as sources for non-authorized materials: China leads list (US\$1.4 billion) followed by Russia (US\$225.8 million), Taiwan (\$109) and Hong Kong (\$102).

**Zenith**, last of remaining pioneer US consumer electronic manufacturers operating under original name, posted US\$299 million loss for year 1997 and warns that unless it finds significant additional funding, it will file for bankruptcy. Firm believes US\$225 million will see it "through end of this year": but even that may be optimistic. Loss of \$299m was against 1997 gross sales of US\$348 million.



**Karoke machines** that turn human voice into electronically generated clarinet, flute, trumpet and saxophone notes is latest from Matsushita. Technology will be expanded to boom-box product line as well. Summer at the beach will never be the same again.

**Uniden in Japan** is now selling cordless telephone that dials numbers using voice recognition circuit. User has 38 memory numbers possible, simply speaks magic word to identify a number and telephone does rest of dialling. Price is US\$270.

### **Cable/Fibre/MMDS/Pay TV**

**Optus Vision** (Cable) is scheduled to announce 10 channel package delivered into home for (A)\$9.95 per month on April 30th. Exact makeup of service package, handling of installation fees are not available to CTD at press deadline. A similar trial **DTH** service is also expected to be announced shortly after May 1st by Optus; details in SatFACTS for May 15th. Optus wants **cable** into home, first step in convincing consumers they should trial or switch permanently to Optus telephone service. Similar plan is underway at Saturn in Wellington region (see below).

**Cable liquidation** has spread across the Tasman (CTD 9802, 9803). Liquidation operator Prentice Parbery Barilla (PPB) acting as receiver and manager for the liquidation of Langley Communications Pty Ltd (which held a contract to install cable television in Gosford, NSW; CTD 9802, p. 6), is advertising the availability of 160 reels of 1/2" flooded coaxial cable (slightly more than 116,000 metres) as well as smaller amounts (under 3,000 metres) of varying grades of RG-59 and RG-6 cable.

**Taupo Cablevision**, foreclosed in March and auctioned off, hopes to be back operating under the new owners by mid-May. The system's primary segments including the headend and building were purchased at auction by a US based company (Mountain Cable TV from Minnesota). Two fibre optic receivers, some headend pieces that were not purchased at auction are being replaced. The cable firm's assets were sold when BNZ loans couldn't be serviced (CTD 9802, p. 4).

**Saturn's expansion** from a cable TV company to a full service telecommunications delivery firm is nearing turn-on stage. Tens of kilometres of telephone plant have been overlashed on top of their previously installed coaxial cables, primarily in the Lower Hutt region, and the firm is consolidating cable operations in a single location (a monster 15m dish from the original Kiwi Cable ancestor of Saturn is being taken out of service - and will be "free to a good home!"). Test runs of a \$20 million "telephone switch" are underway and some corporate lines now operate through the system. Saturn is approaching blast off for some serious competition to Telecom.

**UIH**, part owner of Saturn, has become largest cable operator in Netherlands by performing merger with NV Nuon. Subscriber base is now 1.4 million homes or 25% of total Dutch market. UIH acquired 51% of the partnership, has 3 year option to increase to 76%.

**Sky's launch of digital**, now postponed to around the first of the year, will include two full-time sport channels, one of which will build on the recent acquisition of exclusive broadcast rights for New Zealand cricket. The cricket service will only be offered via satellite, creating an additional bit of persuasion to encourage the services approximately 290,000 terrestrial analogue customers to trade in their analogue for a Sky satellite digital equipment package. Sky's rights to cricket commence in May 1999.

**US Cable TV** received an additional vote of confidence when Microsoft co-founded Paul Allen announced US\$2.8 billion investment in privately owned Marcus Cable. Allen joins fellow co-founder Bill Gates in investing in the cable industry; Microsoft placed US\$1 billion into multiple system operator Comcast last year. The Microsoft investment in Comcast has been described as "passive" while the Allen investment in Marcus will place the buyer into the active day to day operations of the company. Allen, much the forgotten Microsoft founding team member, reportedly has personal investments in 35 differing "new media" companies.

**Cable giant TCI** lost US\$392 million in quarter ending December 31st, significant drop from US\$722 million profit year prior. However, firm believes it has turned an important corner "against DBS" with subscriber gains of 155,000 overall.

**US cable TV industry** has gone on record favouring 720p format of HDTV as it would allow multiplexing of two or more digital services in QAM (modulation format) bouquets. US rules allow TV stations to select digital format (480, 720, 1080) as suits their needs, 1080i format generally agreed for HDTV (high definition television) use. Cable set-top boxes apparently now being readied for consumer use will not properly recognise 1080i signal, but would 720p format. The 1080 format requires a digital transport stream of 19 Mbps, whereas the 720p gets by with a 10 to 12 Mbps rate. Cable set-top boxes could handle up to 4 programme channel multiplexes at 720p, only 2 channels at 1080i.

**New York City** region cable operator, Cablevision Systems, is expanding cable telephony on strength of initial trials which created a 12% penetration of homes passed. Cablevision "Lightpath" charges 15% less per month for telephone service than local telco and dependent upon customer's calling pattern, can with telephone usage reduce cable TV portion of bill to \$0 per month. Cablevision says system "breaks even" between 10 and 12% penetration, is expanding from trial of 3,900 homes passed to more than 60,000.





### Initiatives To Break Terrestrial Digital Logjam in New Zealand

New Zealand's terrestrial TV broadcasters have shown no urgency to create an industry-wide digital conversion plan. New Zealand uniquely has an established system where virtually all commercial radio spectrum (bandwidth) is sold for a twenty year period of time. TVNZ, TV3-4 bought their present analogue frequencies under a special "grand father" provision; competing (mostly UHF) telecasters have won their bandwidth in auction bidding. Under this system, government through the Ministry of Communications takes the position, *"If you wish to create a digital network (station), you simply purchase the bandwidth you need and get on with the task."* Broadcasters see no additional revenue from converting to digital, only significant capital expenditures (variously estimated to be up to NZ\$300 million, which is probably 50% too low).

Australia's government has now decided that it will make available additional TV broadcast spectrum for creation of commercial (and public) digital TV networks. This is being done without a charge by government for the new frequencies. The United States and most other countries of the world have adopted variations of the same plan, as an incentive to broadcasters to upgrade their transmission technology.

The terrestrial broadcaster attitude is, *"We don't want digital, and will not be forced into digital without a fight."* It has become convenient for the broadcasters to suggest their hands are tied as long as the government refuses to make available *"at no cost to the broadcasters"* frequency spectrum that will facilitate creation of new digital networks. Ian Hutchings at the Ministry of Commerce acknowledges his concern that without some showing of positive support by government, digital TV may be long in arriving in New Zealand. He tells CTD, *"Recently - within the last few weeks - there have been exploratory meetings between the broadcasters and this office to attempt to work out some accommodation to their request for digital spectrum. If we can do this, then the Ministry can take a proposal to the Communications Minister for his consideration."*

On the technical side, BCL is reported to have developed "a cunning scheme" using GPS satellites to synchronise operating frequencies of new TV transmitters as a facilitator of the conversion from analogue to digital. Overseas experience with shoe horning in new spectrum for digital has shown that digital fits most nicely tucked up "under the sideband" of the upper adjacent analogue (TV) channel. A digital service can in fact operate on a channel adjacent to an existing analogue service in most circumstances. BCL also claims to be preparing for testing of digital service utilising a UHF channel acquired from MAX-TV in the Auckland area.

There are significant under currents here and an agreement with government concerning "free digital spectrum space" is probably only a minor hurdle. Still on the table, an offer from Sky New Zealand to incorporate at least the four national networks (TV1, 2, 3 and 4) into one of their future digital bouquets - along with a much talked about Maori channel. TVNZ's Neville Lane believes this opportunity should be carefully studied and he shows a personal preference for a satellite rather than terrestrial solution to the analogue to digital conversion.

Sky spokesperson John Fellett recently told **The Dominion** (Wellington newspaper), *"All of the terrestrial networks including yet to launch Prime have shown an interest in having their channels carried on the digital (Sky) service. We will be able to greatly extend their coverage to outlying areas and it is in their best interest because they are advertising based and we would be able to increase their advertising revenue by reaching more viewers."*

The logic supporting all terrestrial broadcasters becoming part of a Sky bouquet (or other) digital service is inescapable. Sky has offered spectrum space within their bouquet to programmers in the range of NZ\$600,000 per year (\$50,000 per month). One Sky bouquet will reach virtually every home in New Zealand for a fraction of the cost of rebuilding all of the terrestrial networks to digital. The broadcasters worry at the corporate level that by supporting the Sky digital approach, they will be giving viewers another, persuasive reason to invest in a

Sky marketed satellite dish system. The broadcasters see Sky as a significant threat to advertising revenue as well as programme sourcing in the decade ahead. To co-operate with Sky in a way that will increase the number of homes equipped with satellite receiving systems only increases the likelihood that middle and long term, they are supporting a competitor that could hurt them badly. None of this will resolve quickly, nor easily. The present initiative by broadcasters and Ian Hutchings is a tentative, first step towards a national digital policy.



**LMDS frequencies** (27-29 GHz) sold in auction in USA failed to achieve anticipated revenues for government. FCC had planned to sell 984 separate licenses and raise in excess of US\$4 billion. In end, 122 licenses were not sold and revenue was under US\$579 million. New Zealand was first in world to auction these frequencies (CTD 9802, p. 20) which potentially could be used as "last mile" interconnection for telephone, Internet or local area TV distribution systems.

**HR-2281**, proposed legislation coming before US House of Representatives, will make it illegal for anyone to tamper with the decryption or conditional access system of any set-top (cable) or IRD (satellite) box.

**Average US cable** television system carries 78 TV programme channels - and growing as virtually all are presently analogue only.

### **Terrestrial Broadcasting**

**"Pirate" radio broadcasters** have become rage in United States. During 1997, FCC enforcement closed down 97 unlicensed AM or FM broadcasters; since January 1 this year, another 67. Pirate broadcasters are claiming airwaves are part of citizen's property, have been exploited by large corporate conglomerates leaving no way for "average people" to have access to radio broadcasting facilities. At NAB convention in Las Vegas during April, 75 pickets appeared to protest failure of US government to recognise needs for local, low power, community broadcasting operations. FCC is studying possible creation of "micropower" stations (CTD 9803, p. 19). Some pirates challenged by FCC have won important court victories; Berkeley, California station has won continued right to broadcast after court decision in San Francisco. There is a growing antiestablishment response occurring here and US authorities seem incapable of putting a lid on it.

**California Microwave** has announced DMR-18 digital microwave system which operates in 17.7-19.7 GHz band. Firm has also demonstrated simultaneous transmission using existing 7 GHz microwave link of standard analogue plus one HDTV video signal. Broadcasters building parallel systems will need such a method of sending studio programming to often remote transmitter sites.

**Fox selection** of 720p format for USA digital is based upon myriad of considerations including ability to seamlessly intercut interlaced material with progressive content. Fox has chosen Faroudja Labs format translators to turn any input source in archives into required 480/720p outputs.

**Heart monitor interference**, created by pioneer digital Dallas television station (CTD 9803, p. 18), is being sorted by joint (US) FCC and FDA (Food and Drug Administration) task force. Dallas hospital experienced ruinous interference to heart monitoring machines when WFAA digital signed on air, station promptly signed off until problem was sorted. Heart monitors have been allowed to operate on "unused" television channels in their market, WFAA's new digital transmitter unfortunately for the hospital was assigned to one of these previously unused channels. US regulations currently allow medical devices to utilise without license TV channels on spectrum sharing basis, subject to "interference as may occur." New regulations will find unique frequencies for such equipment where they will be protected from interference.

**Copyright violation adjustment**. U.S. Supreme Court has ruled defendants in copyright violation suits have legal right to have damages set by jury, and not under court mandate from judge only. TV station owner in Florida and Alabama had been told he must pay US\$8.8 million in "damages" to Columbia Pictures TV following court decision TV stations had not paid license fees. Supreme Court in dual ruling reduced damages to US\$20,000, 0.0023% of the original award.

### **SUBSCRIPTION TO COOP'S TECHNOLOGY DIGEST**

☐ ENTER my one year (10) issue subscription as follows:

NAME \_\_\_\_\_

COMPANY (as applicable) \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY/TOWN \_\_\_\_\_ STATE \_\_\_\_\_ COUNTRY \_\_\_\_\_

☐ Please invoice ☐ Cheque for NZ\$250 / A\$250 / US\$250 (outside New Zealand or Australia) to Robert B. Cooper enclosed.

Return to: Robert B. Cooper, PO Box 330, Mangonui, Far North, New Zealand  
or fax to 64-9-406-1083





**PROGRAMME GUIDES! Are now available for TNT Movies, Channel 11 Movies, Discovery, NBC Asia. For guide subscriptions, call Gay Cooper 406-0651.**

**-CABLE TV UPDATE - May 1, 1998-**

When and where to pay your cable invoice? We request payment of this invoice by May 20th; payments received after May 24th will NOT be reflected on the June 1st invoice. If this invoice is not paid by **June 10th**, our policy is to disconnect cable TV service until in-arrears is paid; there will be a reconnection fee of \$15 minimum if your service is disconnected for non-payment by June 10. Payments may be at the Pharmacy in Coopers Beach, by mail, or direct-debit (call and ask for automatic payment forms - 406 0651).

**WHEN MAKING PAYMENT at Doubtless Bay Pharmacy or by mail,  
please include our record keeping slip appearing below**

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**TERMS AND CONDITIONS**  
**Far North Cable TV Ltd.**

1) Payment of all goods and services strictly 20th of month reflected on invoice; payments are received until the close of the dated month without penalty although payments received after closing of dated month (nominally 24th) may not be reflected in following month's statement.

2) **Your invoice is for the current month.** Any carry-over balance places the subscriber at risk of being disconnected from cable TV service if not paid to our satisfaction. Amounts due beyond the 40th day (first of month following original statement plus ten days) results in automatic disconnection from cable TV service lines. Reconnection is made only after account is settled in full and a reconnection fee (\$15 to \$25) will also apply.

3) Under the terms of the Privacy Act (1 July 1993) you irrevocably authorise any person or company to provide us with information as we may require in response to our credit enquiries. That you authorise us to furnish to any third party details of this application and any subsequent dealings that you may have with us as a result of this application being actioned by us.

4) That you undertake to pay the account in full on or before the due date (20th of invoice month, no later than the 24th of invoice dated month without penalty). In default of such prompt payment, you undertake to pay interest on any outstanding balance at the rate of 2% per month and to indemnify us and pay collection costs plus all costs and expenses on a solicitor/client basis which we may incur recovering from you on any overdue account.

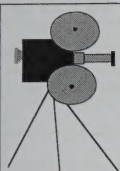
5) That all goods and equipment remain the property of this company at the option of this company until payment is made in full or satisfactory payment arrangements are agreed upon. The debtor gives the company the right to enter any property to uplift the said goods in the event that payment of said goods has not been made.

**SAVE 15% of your ANNUAL CABLE COSTS!**

Subscribers electing to pay for Basic, Premium or Senior service on an ANNUAL basis are entitled to a 15% discount. This discount does NOT apply to Sky service but does include your set-top converter rental and programming guide subscriptions as well as cable TV service. A 15% discount / savings is like getting 1 - 1/2 months of cable FREE of charge (and it eliminates having to deal with monthly payments)! Call Gay Cooper at 406-0651 for details.







## **DOUBTLESS BAY CABLE TV SUBSCRIBER NEWSLETTER**



**Volume 2 ♦ Number 5 / May 1, 1998**

### **Channel 11 Recent Release Movie Switch Complete**

Our movie service changeover for Premium service channel 11, Recent Release Movies, is now complete. A guide for this channel is available for the full month; contact Gay Cooper at 406-0651.

### **Better Reception from Australian Channels**

Basic Channels 99 (Arena), 8 (Weekend sport) and Premium Channels 11 (Recent Release Movies) and 34 (TV"1") have now been 90% corrected from their previous "glitchy" reception problems. Little did we realise when a key piece of equipment failed in January how difficult it was going to be locating a proper replacement part. We are still searching for just the right part (unfortunately, the manufacturer quit making them in 1997 and there is no exact replacement made by anyone else!) but have been able to secure a nearly identical part from a European source. Bottom line - Channels 99, 8, 11 and 34 are now looking much better!

### **Not Your Average Television**

We read about life in Russia, hear about their problems with crime, political instability, and corruption. You don't have to speak Russian to get a keen, new insight into what life in Russia is really all about these days - just tune in new cable channel 37 for a real world look through the eyes of NTV/KTB Television in Moscow, USSR (or CIS as they call themselves these days). Would you believe Ford Taurus and Wrigley Chewing gum adverts? (Note: Operating hours are typically our afternoon through mid evening.)

### **Thanks For Your Survey Material**

Subscribers who took the time to complete their viewing survey sheet included with the April Newsletter are great people! We are tabulating the results and will be guided in which channels we retain, which we replace by your viewing choices. No, it is not too late to complete your survey form and turn it in (before May 10th please). If you failed to complete a survey - we can't be blamed if we take off your favourite channel!

### **Sky's Digital TV Delay**

In case you missed the newspaper report, Sky Television has again announced a delay in starting their multiple channel digital service - now to "early 1999" for new viewers, November-December 1998 for converting existing viewers. We are still not sure what this means to us (they are not very good at communicating) but we DO expect some additional Sky package channels when they finally get their digital act together. Note this: With all New Zealand live cricket moving to Sky, they will create a second sports channel which we intend to carry on cable. Cricket remains on TV1 through the end of April 1999.

### **REMINDER - CIC -31 is YOUR Community Bulletin Board!**

If you are part of a community group, information concerning your activity, when and where you meet and who to contact for more information can be listed without cost to you or your group on the Community Information Channel (Premium 31). As an added benefit - viewers checking this channel can listen to Los Angeles radio station KLOS-FM direct via satellite! Have something to announce? Forms at Doubtless Bay Pharmacy!

### **Updated Channel List ...**

Is included with this month's Newsletter.

**Doubtless Bay Cable TV May (1998)**





# FAR NORTH CABLE TV CHANNEL LIST (01-05-98) 406-0651 & 406-0788

SKY  
(ONLY)

Direct Tune	Set-Top Tune	Service
	3	Sky Sport
	4	Sky Orange

## Explanation of Service

New Zealand based sport service  
Sky TV Network general entertainment service

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	5	TVSN & TV5
	6	CM TV
	7	MCM Music
	8	Sport 2
	13	TV1
	14	TV2
	15	TV3
	16	TV4/DBTV
	17	Discovery
	18	CNBC
	19	NBC
	20	CNN News
	98	TNT + Cartoons
	99	Arena

Home shopping network, local TV programing

Country Music TV from Nashville

Music videos, concerts from Europe

Weekend Sports (Friday 11AM-Tuesday 2AM)

New Zealand Television One

New Zealand Television Two

New Zealand "TV3"

New Zealand "TV"4 (3-11PM); Programme Guide

Adventure, history, nature, science, travel

Business, financial news around the world

Sport, movies, serials, talk shows, news by NBC USA

USA based Cable News Network

TNT Movies 12N-8PM, 9PM-5AM + cartoons

The best of light entertainment

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	9	Weather
	10	TNT Two
	11	RRM
	12	EWTN
	21	ABC Oz
	22	WorldNet
	23	JET-TV
	24	Germany
	26	BBC World
	27	NBC #2
	28	Test-Hallmark
	29	Sky Australia
	30	NHK
	31	CIC-31
	32	Tests
	33	SPN Nauru
	34	TV"One"
	35	GMA
	36	TVRI
	37	NTV/KTb
	38	Star News India
	39	RTVE
	40	TV5 Paris
	41	CFI Paris
	42	RAI Italy
	43	CCTV China
	44	Test # 2
	49	Test #1

Teletext weather, World Radio Network

Cartoons 5AM-9PM, movies 9PM-5AM

Recent release movies, 24 hours

The Global Catholic Network

Australia's Public Broadcast Network

Specials, news, features from USIA

English language Japanese origin programming

Deutsche Welle - English 11 hours daily

News, features 24 hours per day from London

Sport, movies, soaps (differs from channel 18)

Movie Service from Hallmark Entertainment

Horse, greyhound, harness racing & sport

National TV network from Tokyo, Japan

Community Informational Channel News

Testing of new programming sources

## Sports Pacific Network

The best of television past (NOT NZ TV!!)

40% English, 60% Filipino from Manila

Jakarta, Indonesia - some English (early, late evenings)

Moscow, USSR (CIS) - fascinating!

English/Hindi Indian election coverage

Madrid, Spain primarily Spanish

Paris based, primarily French

Paris based, some English daily

International service from Italy

International service (English, Mandarin), China

New programming, secondary test channel

New programming secondary test channel

Current May 1998

